

## Active Members: Please subscribe to the NCPA remailer

All active members should subscribe to the NCPA remailer now, if you haven't already. This is how the organization conducts its on-line meetings.

It's very easy, just send an e-mail from the account you wish to use for NCPA activity to [ncpa-request@kkn.net](mailto:ncpa-request@kkn.net) with the command "subscribe" in the message body (without the quotes). That's all.

Replies will go back to the remailer. If something comes up for a vote, active members just send their vote to the remailer.

Basically, we treat the remailer just like a regular face-to-face meeting. We discuss things, make motions, vote, etc.

There are some people on the remailer who aren't members. But that's fine, our meetings are open anyway.



## President's Message

*Gary Mitchell, WB6YRU*

Well, it was touch & go there for a while. The annual meeting started out without a quorum, (once again). It looked like there was not going to be a vote on the new bylaws.

We had some new people there who

joined half way through the meeting, perhaps out of pity, I don't know. The upshot is that we eventually obtained a quorum and the new bylaws were voted in unanimously. I had a little bit of a problem with bran new people pushing us over the top, since they really didn't have any idea what was going on or why. But be that as it may, we did it.

### So, what now?

**The NCPA is now a committee.** In other words, the whole organization is like the board of directors now.

We still maintain the digital band plan and will work with others (mainly NARCC) on the general band plan. We still will act as a roundtable for packet special interests. So, our core function won't change. We no longer will try to be an educational group nor attempt to support a general membership. And the newsletter will be cut way back.

There's going to be a transition period. Before much of anything else takes place, the "core" of the organization has to settle in. That would be the active members stepping forward and declaring what part of packet they wish to represent.

**The masthead lists those who have already indicated they're active members. The rest of the existing membership is hereby asked to choose between being a regular active member or a secondary member. Use the form on the back cover or e-mail N6HM or myself.**

Eventually, those who don't say one way or the other will become secondary members automatically.

## In This Issue

<b>NCPA remailer . . . . .</b>	<b>1</b>
<b>President's Message . .</b>	<b>1</b>
<b>802.11b frequencies . .</b>	<b>2</b>
<b>Get on the remailer . .</b>	<b>2</b>
<b>General meeting minutes</b>	<b>2</b>
<b>DX Spotting nodes . . .</b>	<b>3</b>
<b>Packet BBS's . . . . .</b>	<b>4</b>
<b>E-meeting summary . . .</b>	<b>4</b>
<b>New Bylaws . . . . .</b>	<b>7</b>
<b>Digital Channels . . . . .</b>	<b>10</b>

If at any point a secondary member wishes to be a regular member, it's a simple matter of saying so, declaring what aspect of packet they wish to represent, and paying the dues (if they haven't already).

Eventually, we may establish a process whereby regular members who cease to be active will automatically drop to secondary member status.

**Regular members** are like directors or board members. They are expected to be "minimally active" and represent some aspect of packet. "Minimally active" means attending most meetings, commenting on issues once in a while, and participating in votes.

Most meetings can be held on-line (our e-mail remailer), so members can

“attend” when convenient. This means signing up on the NCPA’s remailer—and using it.

We don’t have many issues to vote on. There may be times when there’s a burst of activity, but most of the time there won’t be a lot to do.

### Committee

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Mel Gregonis W6BNG  
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### Officers & Staff

President: Gary Mitchell, WB6YRU  
Vice-President:  
Secretary: Dave Harris, N6UOW  
Treasurer: Howard Krawetz, N6HM  
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Frequency Coordinator:  
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NCPA web page:  
<http://www.n0ary.org/ncpa>

The NCPA meets electronically, the remailer is: [ncpa@kkn.net](mailto:ncpa@kkn.net). Anyone can subscribe by sending e-mail to [ncpa-request@kkn.net](mailto:ncpa-request@kkn.net) with the command "subscribe" (without the quotes) in the body of the message.

**Secondary members** are the people who join, but don’t participate much. They don’t pay dues (unless they want mailings) and won’t count toward obtaining a quorum. They act in an advisory capacity. So, not much will change for those who rarely participate anyway.

### Dues

Some people believe there should be some minimum dues. Originally, the dues were established to pay for the newsletter. There are some organizations doing quite well with no dues at all, but they accept donations. In my opinion, maybe we should consider dropping the dues if there are no expenses.

Whether dues are eliminated altogether or not is up to the members. But for now, they just voted to cut in half to \$5.

### Downlink

On of the reasons for these changes is to reduce the load on those doing all the work. A big part of that is this newsletter.

One idea is to eliminate the newsletter as a regular publication, only coming out with an issue when there is something specific to say.

Some say there should be at least one or two regular issues per year, even if it’s just the list of DX nodes, BBS’s, and the band plan. I’m not so sure that would be worth while since this information is available on our web site anyway, (which will continue).

This hasn’t been settled yet. Either way, there may be one more “regular” issue.

### And then what?

After the dust settles, what have we got? For starters, it will be a lot easier to do things since the requirement for a quorum has been adjusted.

We have yet to finish working on the overall band plan with NARCC. What remains to be decided are the bands above 70 cm. Compared to what has already been done, in my estimation, what’s left will be a cake walk.

There’s the issue of amateurs not being able to use the 219-220 MHz segment because of the way the FCC rules give veto power to the AMTS people. That’s something I’d like to see

the NCPA work on. (i.e. propose a change to the rules.)

People are talking about using 802.11b for high-speed links. We probably should make allowances for that in the digital segments fairly soon.

If Icom’s D-Star digital radios manage to overcome their high price and become popular, we’ll have that to think about too.

And whatever else you guys may be interested in doing. :)

**NCPA**

## **802.11b Direct Sequence Channel to Frequency Mapping**

USA/FCC & Canada regions have 11 total channels allocated. All frequencies are in GHz. (Channels 1-6 land within the amateur overlap)

Channel	Center Freq.	High Freq.	Low Freq.
1	2.412	2.423	2.401
2	2.417	2.428	2.404
3	2.422	2.433	2.411
4	2.427	2.438	2.416
5	2.432	2.443	2.421
6	2.437	2.448	2.426
7	2.442	2.453	2.431
8	2.447	2.458	2.436
9	2.452	2.463	2.441
10	2.457	2.468	2.446
11	2.462	2.473	2.451

**NCPA**

## **NCPA General Meeting, October 18, 2003, Pacificon, San Ramon, CA**

Called to order at 10:07 AM

Attendance: Gary Mitchell WB6YRU, John Remoy KN6SQ, Howard Krawitz N6HM, Bob Vallio W6RGG, Jerry Kornbau AA4JK, Barry Barnes KE6LW, Mel Gregonis W6BNG, and Mike Fahmie WA6ZTY (renewed at meeting).

Visitors: Carl Reisinger KG6ESX, Gregory Gordon AC6VJ, Robert McClearn W6GJ, Harry Styron K6HS.

# DX Spotting Nodes

September 2002

<u>Location</u>	<u>Call</u>	<u>Alias</u>	<u>Frequency</u>	<u>Coverage</u>
California City	K6ZZ		144.490	Antelope Valley area
	EARN8		144.490	Oak Peak
Castro Valley	W6RGG	DXCV	145.770	East, West, South SF Bay area
Chico	K6EL	DXC	145.670	Chico
	K6EL	DXW	145.670	Oroville, Red Bluff
	K6EL	DX	144.950	South Fork Mtn - Redding area
	K6UR	DXFRES	144.950	Bear Mtn, Fresno area
Hanford	K6UR	DX7	145.770	Mt. Adelaide, Bakersfield
	K6UR	DX16	145.770	Oakhurst
	NF6S	DXL	145.770	Tri-Valley area
Livermore	NF6S	DXL	145.770	Tri-Valley area
Los Gatos	N6ST	DXLG	146.580	Santa Cruz Mtns, Monterey Bay
	N6ST	DXF	146.580	Santa Cruz/Los Gatos
Oakdale	K6OQ		146.580	Modesto area
Penngrove	K6ANP	DXANP	145.670	Sonoma County
Reno, Nevada	N7TR	RENODX	144.950, 146.58, 441.500	(2400 baud), 51.7
	N7TR	PCDX1	146.580	Low Level in Reno
	N7TR	PCDX	144.950	Virginia City, NV
	N7TR	DX2400	441.500	(2400 baud)
	K6NP	DXRL	144.950	Sacramento, Woodland, Davis
Bob Vallio - W6RGG		w6rgg@arll.net		

Quorum is 15 percent, but at least ten. We don't have a quorum (once again).

1) Treasurer's Report, Howard N6HM: Don't have records here, but the treasury is over \$300.

2) Secretary's Report, Dave N6UOW not present. Membership is 46 as of Sept. 29, 2003

3) Downlink Gary WB6YRU: If the new bylaws are approved, there would probably be at most one annual issue and it wouldn't have the number of articles it has now.

N6HM: there should be two per year, even if each is only a boiler-plate issue. That way there would be less work for the editor and the membership would get more contact from the organization. It costs about 95 cents to copy and mail out one issue. With fewer pages, it would cost even less.

4) NCPA restructure, bylaws discussion & vote (need 2/3 approval): Gary WB6YRU: There isn't a quorum, so we can't vote on this. However, we can

discuss it. (For the benefit of the new people, described the background and reasons.) One person can't keep doing everything, something has to give. This is the driving force behind the bylaw change. There just isn't enough participation.

The proposed bylaw changes were published in the past two Downlinks. Basically, the Association would become a committee. This would be like the board of directors expanding to become the whole organization. Significant changes include:

- All members would effectively be directors (i.e. board members or committee members)
- General membership would be eliminated
- Newsletter would be vastly reduced, if not eliminated
- Dues probably significantly reduced, if not eliminated
- Requirement to be a director drastically changed, at least one rep. from each packet interest.
- Creation of "secondary membership" status, non-voting, act merely as advisors
- Some requirements for meetings changed or reduced.

WB6YRU: suggested we reduce or eliminate the dues, (they were originally created just to pay for the newsletter).

N6HM: Dues can be reduced, but shouldn't be eliminated. People need to feel that the organization has some value and no dues would make it feel worthless. Reducing by half (\$5 annually) would be OK

Two visitors joined the NCPA at this point.

WB6YRU: I'm not real comfortable with this, the new guys really have no idea what's going on. But be that as it may, we now have a quorum.

Bob W6RGG: motion to accept and approve the bylaw changes. Seconded. Approved unanimously.

5) Transition of current membership: Consensus was that all current members may become directors automatically, as opposed to "secondary members."

Adjourned 10:40 AM  
Gary Mitchell, WB6YRU

**NCPA**

# NCPA E-Meeting Excerpts

*Excerpts of the NCPA remailer traffic, May 20, 2003 through November 17, 2003. Compiled by Gary Mitchell WB6YRU (Quoted material is in italic. Full text of traffic is available).*

Aug 20, 2003

WB6YRU:

Spring Downlink will be coming out shortly, does some have anything to submit? I'm surprised no one said anything about the change to the bylaws.

KE6I:

My only concern is that the NCPA continue to exist in some form.

WB6YRU:

Ultimately, that's the basic idea. Participation is so low, it's pretty tough to keep things going as is. This is the best survival strategy I've been able to think of and nobody else has come up with an alternative. My main concern is that the organization shouldn't develop into some kind of clique.

K6JQ:

That's exactly what happened to the Southern California groups SCDCC and SCAPS. Distilled politics.

I got an anonymous letter in the mail which was a copy of the NCPA band plan, with the "145.79 TCP/IP" entry highlighted. I was running my TCP/IP-capable PBBS on 145.01, the local watering-hole in isolated North LA County, but someone that lived 5 hours drive from me saw fit to try to "correct" me. It *\*did not\** make me think well of the NorCal folks at the time (it was postmarked in Fresno if I recall correctly).

I thought NCPA was cliquey then and too cowardly to sign a name, call sign or return address where I could ask "is LA County is Northern California?".

WB6YRU:

That sounds like the now defunct CENCA group. It wasn't the NCPA, a return address would have been included. I don't know why we keep getting blamed for what others do.

KE6AFE:

I think the steps that have been happening are easily adequate to avoid concerns about NCPA being a closed clique.

Aug 26, 2003

N2RHV:

I'm looking for a speaker in Milpitas October 9th. Packet issues - both technical and political would be welcome. Anyone like to come beat the drum for

NCPA?

WB6YRU:

I can't even get enough participation to keep the organization alive.

Aug 27, 2003

N6HM:

Why not try video teleconferencing for our meetings? Most folks have broadband connections and web cams are very cheap now.

WB6YRU:

Not everyone has broadband. We talked about this before, weren't you and Zonker going to look into it?

N6HM:

I checked this out. The libraries have broadband connections, but they don't have cameras for conferencing and you can not put one on the computers in the libraries. So there is another idea shot down.

Aug 28 2003

N2RHV:

N0ARY and other BBS systems are VERY hard to connect from Milpitas. The real reason nobody uses packet is that IT DOES NOT WORK!

You guys do not have any useful user information available. No maps, no node info, and no BBS help on the usual web sites.

KE6I:

Hmm, yeah. Well, I do agree that it'd be nice to have a good map of the packet nodes here in northern california.

WB6YRU:

Most of the nodes used by BBSs are only for forwarding, the rest are mainly keyboard. I've tried to put together a list, but it isn't easy.

N2RHV wrote: "*N0ARY and other BBS systems are VERY hard to connect from Milpitas.*"

That's *\*very\** strange. I live in south-west San Jose and can connect to Berkeley on half that power, no problem. Milpitas to the top of the Regional Medical Center is almost line of site and it's only a few miles apart. If you can't make it with 50 watts and a good antenna on a tower, something is seriously wrong, and it's not simply that packet doesn't work.

Sept 4 2003

WB6YRU:

(After discussion about where nodes are, sends out his list of nodes.)

## Packet Sysops of Northern California Packet Bulletin Board Systems October 2003

Call	Location	User Ports
-----	-----	-----
WH6IO	Benica	144.99, 145.71&+, 145.75&, 433.43&+
WA6ZTY	Berkeley	144.97
KE6I	Berkeley	145.01&, 433.43&
N6RME-1	Diamond Springs	145.07
N6LDL	Los Gatos	144.97, 145.71&, 441.50
W6CUS-1	Richmond	145.63
N0ARY-1	San Jose	144.93, 433.37&
K6YV	Sonora	144.97
WA6EWV-1	South Lake Tahoe	144.97
W6SF	Stockton	144.99

Key:

- & = 9600 Baud Port
- + = TCPIP Port
- \* = Currently Inactive

KE6I:  
This looks like a good start. The format is fine.

Sept 18 2003  
WB6YRU announces meeting at Pacificon. Ask for submissions for the Summer Downlink due out in a couple of weeks.

KE6I:  
<http://www.n0ary.org/ncpa/> Seems to have lost its bitmaps.

WB6YRU:  
Sorry, that's WordPerfect's fault. I thought I caught all of those. :( I'll fix that shortly.

Also... Everyone should take a look at the latest proposed bylaws.

N6UOW:  
I won't be able to attend the meeting, but will continue as director and APRS rep.

Oct 20, 2003  
WB6YRU posts meeting minutes, asks for corrections.

Oct 21 2003  
WB6YRU:  
NCPA is now a committee of "higher-ups" in the digital aspect of amateur radio.

First we need to ID active members who will represent specific packet interests. Suggest each current member be given the choice of being an active member or secondary member. If they don't say anything, secondary member is the default.

KE6I:  
I'll represent BBS and TCP/IP.

N6HM:  
Put me down for Keyboard as in the past, also 802.11b.

KE6I:  
About Icom's D-star, I looked into it a little more, and it looks like the D-star digital repeaters need to be coordinated. Is this packet digital or repeater? NCPA or NARCC?

K1000:  
As a tertiary member of the committee, one has to ask, "Does the committee want to coordinate digital stations under 97.205".

At the risk of being out of order, I do recommend the committee at its earliest convenience meet and confer with other

digital users of amateur spectrum to agree upon a new digital 97.205 coordination plan.

KC6XSC:  
My feelings on D-Star are: let it die in peace.. There is already a industry defined standard for digital voice, it's called APCO-25, and it is currently being deployed in the public safety sector. I don't see a need for another non-standard proprietary format just for ham use. I don't see that there is a market for D-Star, and I doubt that it will survive, or ever reach critical mass, so why bother.

WB6YRU:  
Basically D-Star gives you data (ethernet) and digital voice in one package. But I can't imagine it becoming very popular, it's too expensive. Their ID-1 (data transceiver, 1240-1300 MHz) costs around \$1400. The repeater goes for \$4700. And the 10 GHz backbone link runs \$14,000.

KE6I:  
What ever happened to 902 Mhz WLAN? Why all the focus on 2.4, and not on the 902? Wouldn't 902 Mhz be a little more forgiving for paths?

N6HM:  
The focus on 2.4 MHz is because of the availability of inexpensive equipment that does not need any modifications. Just add software and go.

Oct 23 2003  
WB6YRU:  
Then next Downlink will be coming out in a couple of weeks. Any submissions?

Oct 24 2003  
K6JQ:  
If someone buys COTS Part 15 gear and operates it in compliance with the Part 15 certification, is it ham radio? Easy answer: no. What does NCPA or anything ham radio group have to do with this non-ham operation?

KE6I:  
Once you use a dish, then it's no longer part 15.

WB6YRU:  
Amateurs can use more power and large outdoor antennas, just like any other UHF rig. Part 15 users must use very low power, may not interfere with licensed services and must accept interference from licensed services.

As far as the NCPA goes, we could allocate space for this activity on the appropriate amateur bands and coordinate.

KE6I:

NCPA might also serve as a contact in case we identify some licensed users of that band who we have to steer clear of.

K1000:  
NCPA can be a recognized digital coordinator. Let the 802.11b device self coordinate with its neighbor networks, that's what it is designed to do.

You would want to interface with the commercial user groups who have coordinated activities on their outdoor networks for many years now. Groups in SF and Sonoma County have web sites that promote open source gateways necessary to close the amateur network to the general public whose computers may be configured to connect to any available signal.

The only other licensed users in 2.4 GHz are hams. There are all the standard emissions including fm repeaters and wideband ATV, DX and moonbounce, experimental and satellite. The 802.11b radios are channelized, with just a few falling within the ham band. The ARRL working group has recommended channel 6 as a starting point for amateur networks.

Education and outreach to all the users of the spectrum is the key.

KE6I:  
Are we the only ones legally allowed to use high gain antennas on 2.4 then?

K1000:  
Part 15 allows high gain antennas with a corresponding gain reduction in the transmitter. Radio manufactures must type except the entire package. To meet the rules they lower the power output in firmware of the radio and supply a fixed length of coaxial hard line and directional antenna as a package. The FCC rules are made to be interpreted and waivers are commonly granted to manufactures so your mileage may vary.

Consumer market wireless networks are low power 30 milliwatts with no gain rubber duck antennas. They are cheap, they are everywhere, and lucky to get out a hundred feet. They can cause the noise floor to elevate on channel 6 as that is a common default setup channel.

KE6I:  
Is it reasonable that a relatively high power/gain ham radio system could intermittently share with others on the channel? There seems to be a bit of paranoia about this among part 15 people, though I wonder anyone has documented a real problem out there.

We should just stay within the law, and not worry about it unless someone complains, and at that point try to accommodate best as possible.

WA6ZTY:

Someone correct me if I'm wrong, but don't we, when on these frequencies, need to have software control of the power level so that minimum power for communication is dynamically controlled?

KE6I:

From [http://www.arrl.org/hmmm/HMMM\\_802.11.html](http://www.arrl.org/hmmm/HMMM_802.11.html)

*Channels 1 and 6 fall completely within the amateur band 2400-2450 MHz, and could be used by amateurs under Part 97 of the FCC Rules permitting spread spectrum (SS) operation. In fact, amateurs are permitted up to 1 watt of transmitter power output without automatic power control (APC) and up to 100 watts if APC is used.*

Looks like 1 W or lower is cool. And my understanding is that APC on spread spectrum does not exist in any form anywhere.

I'm not even sure what does APC mean if you have a fixed path. That if you have just enough power to hit the other side, and that station never moves, like what's the point of the automatic?

WA6ZTY:

There are all manner of effects that can modulate the path loss on 2.4 GHz, especially if the path is obstructed or almost obstructed. 20 dB variations are not uncommon.

KE6I:

From the ARRL site: *If more than 1 W is used, automatic transmitter control shall limit output power to that which is required for the communication. This shall be determined by the use of the ratio, measured at the receiver, of the received energy per user data bit ( $E_b$ ) to the sum of the received power spectral densities of noise ( $N_0$ ) and co-channel interference ( $I_0$ ). Average transmitter power over 1 W shall be automatically adjusted to maintain an  $E_b/(N_0+I_0)$  ratio of no more than 23 dB at the intended receiver.*

To me it sounds like if your best case is 23db over the noise and the path only gets worse, then the link will always be legal. Obviously, if it dropped 20db, then it'd flake out.

WB6YRU:

KE6I wrote: "Are we the only ones

*legally allowed to use high gain antennas on 2.4 then?"*

No, there are other services in some segments of the 13 cm band, (take a look at 97.301 and 97.303). But part 15 seriously limits the power and antenna. The idea is that part 15 devices are such small radiators, they can be ignored.

Oct 26 2003

WB6YRU:

We need representatives for APRS, BBS, DX Spotting, Keyboard to Keyboard, TCP/IP, and 802.11b. So far we have the following representative members:

Dave Harris N6UOW: APRS

Howard Krawetz H6HM: Kybrd/802.11b

Catherine Mataga KE6I: BBS/ TCP/IP

Gary Mitchell WB6YRU: BBS

Part of the web site has been updated.

Oct 26, 2003

W6RGG:

I wish to continue representing the DXPSN to the NCPA.

W6BNG:

I will represent "Hi-Speed" (802.11b).

WA6ZTY:

Put me down for BBS and KEYBOARD.

Nov 1 2003

WB6YRU:

The next Downlink (and possibly the last regular issue) is being prepared. Does anyone have anything to submit?

WB6YRU:

So far the NCPA has these representatives (and "active members"):

Mel Gregonis, W6BNG: High-speed and 802.11b

Dave Harris, N6UOW: APRS

Howard Krawetz, N6HM: Kybrd/802.11b

Catherine Mataga, KE6I: BBS & TCP/IP

Gary Mitchell, WB6YRU: BBS

Bob Vallio, W6RGG: DXPSN

Mike Fahmie, WA6ZTY: BBS/Kybrd

KE6AFE:

I'll add myself to the list for APRS.

---

Motion to reduce dues:

Nov 3, 2003

WB6YRU:

OK, we now have a core of active members:

Mel Gregonis, W6BNG: High-speed and 802.11b

Dave Harris, N6UOW: APRS

Howard Krawetz, N6HM: Kybrd/802.11b

Catherine Mataga, KE6I: BBS & TCP/IP

Gary Mitchell, WB6YRU: BBS

Bob Vallio, W6RGG: DXPSN

Mike Fahmie, WA6ZTY: BBS & Kybrd

Cap Pennell, KE6AFE: APRS

More can come later, but this is good enough to start.

Since the Downlink is by far our biggest expense, and since it will be significantly cut back, **should the annual dues be lowered to \$5?**

We can always revise this later (if need be), but I need to know what to put on the membership form in the next Downlink.

This isn't an attempt to screw anyone out of a few bucks. If approved, the plan is to double the time remaining on the existing memberships.

KE6AFE: yes

N6HM: no

WA6ZTY: Nay.

KE6I: No.

W6BNG: YES, lower to \$ 5.00

W6RGG: Yes

KE6LW: Nay (advisory)

N6UOW: I vote in favor.

Nov 10, 2003:

WB6YRU:

It's close: 4 yes, 3 no, with one advisory against. The ayes barely have it, the motion carries, the dues will be lowered from \$10 to \$5.

Since this proposal was made mostly because of the Downlink, it will go into effect after the next (probably last quarterly) newsletter issue. That's roughly the first of the year, the winter quarter. So, I hereby ask the secretary to double the time remaining on the existing memberships as of the winter quarter 2004.

**NCPA**

# **The New Bylaws**

## **CONSTITUTION OF THE NORTHERN CALIFORNIA PACKET ASSOCIATION**

This document shall serve as the CONSTITUTION and BYLAWS of the Northern California Packet Association, (NCPA), a non-profit organization, and may be referred to as either.

### **PREAMBLE**

The Northern California Packet Association was originally formed in the late 1980's to function as a "round-table" organization for the various Amateur Radio packet special interest groups in the region. With the increasing popularity of Amateur Radio packet at the time, the Association quickly became a general membership organization.

Apparently due to competition from the internet, interest and participation in Amateur Radio packet started to wane in the late 1990's. Eventually, participation in the Association dropped to a level where it became necessary to revise these Bylaws in order to enable the Association to continue functioning efficiently. In 2003, it was decided to change the Association from a general membership organization into a committee structure, resembling its original format. In doing so, the main concern was to retain the open and democratic nature of the organization.

### **ARTICLE I Purpose**

The Northern California Packet Association is a committee of packet special interest groups and others involved in Amateur Radio digital communications. The purpose of the Association is to foster the development of digital Amateur Radio communications in Northern California (approximately the top two-thirds of the state). This field is occupied foremost by Amateurs who, individually and in groups, make efforts to research, design, test, construct, operate, and use digital systems. These individuals and groups also make efforts to recruit and educate others in the field. All of these efforts can benefit from planning and coordination, and the Association provides the forum for such to take place. To achieve these goals the Association is organized to function as a working group, rather than as a social organization, and it shall, among other things, strive to do the following:

1. Improve the state of the art in the field of digital communications via Amateur Radio.
2. Encourage and educate interested persons and groups in the area of digital communications via Amateur Radio.
3. Encourage the construction, operation, and expansion of local, regional, national, and worldwide communications systems using digital methods via Amateur Radio.
4. Encourage the development of new and diverse methods of digital communications.
5. Bring together a cross-section of all the diverse interests in the field of Amateur Radio digital communications so all will have a voice and the opportunity to offer their knowledge, experience, talents, and goals to the benefit of the digital community.
6. Select frequencies for digital use through both general band planning and defining specific activities on digital channels. General band planning efforts include working with users and coordination groups for non-digital modes, with an aim to maximize the ability of the Amateur Radio Service to accomplish its purposes as set out in Federal Regulations.
7. Coordinate use of digital frequencies so that the goals of the digital community are best facilitated.
8. Represent the interests of the Northern California digital community in its contacts with others, such as regulatory bodies, coordination groups for non-digital modes, and digital coordination groups serving other geographical areas.
9. Perform all these activities in Northern California, plus in any contiguous areas of the digital users in those areas and as the Association should so decide.

### **ARTICLE II Members**

A. Any individual or bona fide Amateur Radio club or group involved in digital communications, band planning, or coordination of digital communications may become a Member upon making application and paying the dues. The Association shall make every effort to include at least one representative from each known digital special interest group within the Association's territory. If there is no representative for a particular digital special interest group or no one from that group wishes to participate, the Association is not required to operate as if it has a vacant seat, nor will this affect the achievement of a quorum.

B. Memberships run from the time of joining until the same date the following year. Memberships automatically expire unless

renewal dues are submitted. Membership may be denied or revoked for cause. "Cause" is defined as conduct by the Member inimical to the Association's interest, and shall include, among other things, the inability to work with others in carrying out the Association's purposes.

C. Each bona fide Amateur Radio club or group which joins the Association shall designate a person to act as their representative. A club may also designate an alternate to serve if its representative is absent. Such designations shall become effective when the Secretary is notified of them by the club or group, and they shall remain in effect until the Secretary is notified otherwise.

D. Each individual Member and each representative (or alternate) of each club or group which is a Member shall have one vote at Meetings of the Association.

E. All records of the Association shall be open to the inspection of any Member. Any Member shall have the right to timely copies of such records at cost and in any reasonable format requested. Only information in the nature of access codes or passwords may be withheld from such a request.

F. Lists of names of Members, as well as other information provided by the Association from its records, shall be used only for internal matters concerning the Association or the digital community it serves. Such lists shall not be used for solicitation by other associations, for publication, or for commercial purposes of any kind. This restriction may be waived upon two-thirds vote, but each Member retains the right to disallow their name to be included in any such distribution.

G. Amateur radio operators may band together to form Special Interest Groups in cases where they share an interest in a specific aspect of digital communications. They may select individuals to represent their group in the Association.

H. Secondary Members. Individuals merely interested in digital communications may join in a secondary capacity and thereby achieve greater participation in the Association's activities. Secondary members may not have voting rights nor count towards a quorum, but the Association shall make every effort to obtain and fairly weigh their opinion before making decisions. Secondary Members are not necessarily subject to the Member duties, rights, and provisions mentioned elsewhere in these Bylaws. Secondary Members may not be required to pay dues unless they cause the Association to incur some costs related to their participation (such as receiving the newsletter).

I. Dues shall not be excessively more than that reasonably needed to keep the Association solvent. The Membership may vote to waive dues in some cases, including but not limited to instances in which the paying of dues is a significant impediment to the participation of a recognized digital special interest group.

### **ARTICLE III Committee Structure**

A. The Association shall be run as a committee which, at a minimum, shall consist of representatives from each of the various recognized digital special interests in the Association's territory. For purposes of achieving a quorum, if any such group chooses not to participate, the Association may proceed as if that group doesn't exist.

B. Meetings shall be held in Northern California unless at least two-thirds of the members agree otherwise. Meetings may be called by any three Members. To have a Meeting, each Member must have been notified, as per Article VI, of it or have waived the right to notice.

C. The Association may elect to meet electronically (e.g. internet remailer) so long as all Members who wish to participate have approximately equal access. Such meetings may occur often and deal with single issues as they come up. As far as is practical, every effort must be made to make such meetings as open and accessible as face-to-face meetings.

E. If the number of voting members ever consists of fewer than three, the Association shall be considered dormant, in which case the remaining members should make a good-faith effort to fill the vacant seats with reasonable candidates. If this dormancy lasts for ninety days or more, each member may have their membership expiration frozen as of the date the Association went dormant.

### **ARTICLE IV Officers**

A. Officers shall be elected by the membership. The Officers shall carry out the day-to-day management of the affairs of the Association in accordance with direction given them by the membership.

B. The Association shall have the following Officers with duties as follows:

1. The President shall run Association meetings. His primary function is to coordinate. He shall strive to get other people to do as much as possible and thus increase involvement by others.
2. The Vice President shall assist the President and shall perform the President's work if the President is absent.
3. The Secretary shall keep the Association's records, except financial and property records. He shall keep minutes of meetings and issue Association correspondence.
4. The Treasurer shall handle the Association's money. He shall make reports on the Association's financial condition as needed. He shall keep an inventory of any materials owned by or on loan to the Association.

- C. In addition to the duties specifically listed, each Officer shall have the duties attributed to his office by custom or law.
- D. The Membership may designate individuals or committees to assist in specific duties (Appointees). Technical committees, frequency coordinators, web-master, newsletter editor, and the like are examples. The Membership shall specify the extent of the authority of such Appointees in the motion appointing them.
- E. Officers and Appointees serve at the pleasure of the Membership, and the Membership may dismiss such persons from their positions and/or redefine their authority at any time. The term of Officers and Appointees is one year, or as specified by the Membership.

#### **ARTICLE V Meetings**

- A. There shall be at least one General Meeting held each year. Additional Meetings may be held during the year upon petition of the members per paragraph C of this article.
- B. Meetings may be held on-line (electronically) or in any other similar non face-to-face format so long as each attendee has approximately equal access.
- C. Any three Members may submit to the Secretary a petition calling a Meeting. The petition shall state the date (at least thirty three days hence), time, place, and topics to be discussed. If the Secretary's office is vacant or he is not available, delivery of the petition to another Officer shall suffice.
- D. Items of business may be brought before a Meeting without prior notice; however, thirty days prior notice is required for actions to amend this Constitution or to revoke a membership in the Association.
- E. Fifteen percent of the Membership, but at least half of the members representing recognized digital special interest groups (one each), must be present at a Meeting to constitute a quorum. A majority of the Members voting on a measure is required for it to pass. EXCEPTION: Two-thirds of those voting is needed to amend this Constitution, or revoke a membership in the Association.
- F. Members who are unable to attend a Meeting, but wish to vote on any issue, may submit their proxy to the Secretary. The Secretary must have possession of all such proxies prior to the vote.
- G. If a vote is pending and there is no quorum, the Secretary shall solicit the votes of the Membership in a timely manner, (acceptable methods include, but are not limited to mail, e-mail, telephone, packet, fax, etc.). If all current members have been so notified and have had a reasonable opportunity to vote, that constitutes a quorum.

#### **ARTICLE VI Required Notice**

- A. Notice of Meetings must be sent to all Members by newsletter or other notification, including but not limited to: mail, e-mail, telephone, packet, fax, etc. thirty days before the Meeting. If the newsletter is published on-line (i.e. available as a web page on the internet), it is considered to be "sent" once it is available on the internet. However, to assure that the Members will see on-line notices of meetings, notification shall be sent within three days, by a reasonably sure and quick method, including but not limited to: e-mail, telephone, fax, etc., advising them that the on-line newsletter or notice has been updated with new important information. New Members shall be informed as to the web address (URL) of any on-line newsletter or notice, current Members may also be re-notified from time to time.
- B. If action to remove a Member from the Association is to occur, written notice must be put in the mail to the affected party at least fifteen days beforehand, so that he can have his say at the Meeting where the vote is to be taken. Temporary actions of this type may be taken without notice in an emergency, but no final action may be taken without it.

#### **ARTICLE VII Amendments**

Amendments may be made to this Constitution by the Members. Proposed Amendments shall be set out in full in the newsletter or similar notice preceding the Meeting at which the vote is to be taken. Notice to all Members shall be given as per Article VI at least thirty days before such meeting.

#### **ARTICLE VIII Implementation**

This Constitution shall become effective and will supersede all previous versions when approved by the Membership at the 2003 Annual Meeting.

**Approved unanimously by the membership at the General Meeting October 18, 2003.**

# Digital Channel Allocations for Northern California

N C P A

April 2003

## 50 MHz

50.60-50.80 (20 kHz channels, non-specific at this time)  
51.12 SCA backbone  
51.14 BBS  
51.16 Keyboard to Keyboard  
51.18 Experimental  
51.62 TCP/IP, 9600 baud  
51.64-51.68 (20 kHz channels, non-specific at this time)

NOTE: On this band adjacent channel interference is harder to overcome for repeaters. NARCC requests that any new six meter permanent packet installations (such as nodes) please check with their six meter coordinator. You don't need to get a formal coordination, but they would like to be aware of your station and have an opportunity to check for possible conflicts first.

## 144 MHz

144.31 BBS  
144.33 Balloon & experimental  
144.35 Keyboard to Keyboard  
144.37 BBS LAN forwarding  
144.39 APRS (U.S. and Canada)  
144.41 Duplex, lower half (145.61 upper half, 1.2 MHz split)  
144.43 TCP/IP (OK to run duplex with 145.65)  
144.91 Keyboard to Keyboard (and EOC)  
144.93 BBS  
144.95 DX Spotting  
144.97 BBS  
144.99 BBS  
145.01 User access  
145.03 Keyboard to Keyboard  
145.05 Keyboard to Keyboard  
145.07 BBS  
145.09 BBS  
145.61 duplex, upper half (144.41 lower half)  
145.63 BBS  
145.65 TCP/IP 9600 bps (OK to run duplex with 144.43)  
145.67 DX Spotting  
145.69 BBS  
145.71 9600 bps  
145.73 BBS  
145.75 TCP/IP  
145.77 DX Spotting  
146.58 DX Spotting

NOTE: Allocations from 144.31 through 144.43 are relatively close to the weak-signal sub-band—please watch your FM deviation.

## 220 MHz

219.05-219.95 100 kHz channels, Backbone  
223.54 LAN  
223.56 LAN  
223.58 LAN, Gilory (GARLIC)

223.60 LAN, Sacramento Valley (SACVAL)  
223.62 LAN, South Bay (SBAY)  
223.64 TCP/IP  
223.66 Keyboard to Keyboard  
223.68 DX Spotting Backbone  
223.70 LAN, Monterey Bay & North Coast (MRYBAY)  
223.72 LAN, North Bay (NBAY)  
223.74 Backbone, DX Spotting

## NOTES:

- 219 channels are by coordination only. There are currently political problems with using 219-220, making them unavailable in most of northern CA.
- On 223.58, TCP/IP interlink (Sacramento) is secondary, not to interfere with node uplink.

## 440 MHz

431.45 / 434.85 Duplex (100 kHz)  
431.55 / 434.95 Duplex (100 kHz)  
431.65 / 438.40 Duplex (100 kHz)  
431.85 / 438.60 Duplex (100 kHz)  
431.95 / 438.70 Duplex (100 kHz)  
433.05 TCP/IP backbone (100 kHz)  
433.15 BBS backbone (100 kHz)  
433.25 DX Spotting backbone (100 kHz)  
433.33 Experimental (60 kHz)  
433.37 BBS, 9600 baud  
433.39 DX Spotting  
433.41 BBS LAN  
433.43 9600 baud TCP/IP  
433.45 BBS LAN  
433.47 Keyboard Interlink  
433.49 TCP/IP  
433.51 Keyboard to Keyboard  
433.53 Keyboard to Keyboard (and EOC)  
433.55 BBS LAN  
441.50 Any digital

## 900 MHz

903.500 1 MHz wide, TCP/IP  
904.500 1 MHz wide, TCP/IP  
915.500 1 MHz wide, experimental  
916.100 200 kHz wide, experimental  
916.300 200 kHz wide, experimental  
916.500 200 kHz wide, experimental  
916.650 100 kHz wide, experimental  
916.750 100 kHz wide, experimental  
916.810 20 kHz wide, experimental  
916.830 20 kHz wide, experimental  
916.850 20 kHz wide, experimental  
916.870 20 kHz wide, experimental  
916.890 20 kHz wide, experimental  
916.910 20 kHz wide, experimental  
916.930 20 kHz wide, experimental  
916.950 20 kHz wide, experimental  
916.970 20 kHz wide, experimental

916.990 20 kHz wide, LAN links (Contra Costa County only)

NOTE: 900 MHz activity is on a non-interference basis to vehicle locator service. This sub-band is not considered suitable for omnidirectional systems. Use for point-to-point links only.

## 1296 MHz

1248.500 1 MHz wide, experimental\*  
1249.000-1249.450 Unchannelized, experimental  
1249.500 100 kHz wide, experimental  
1249.600 100 kHz wide, experimental  
1249.700 100 kHz wide, experimental\*  
1249.800 100 kHz wide, experimental\*  
1249.870 20 kHz wide, experimental  
1249.890 20 kHz wide, DX Packet Spotting  
1249.910 20 kHz wide, experimental\*  
1249.930 20 kHz wide, experimental\*  
1249.950 20 kHz wide, experimental\*  
1249.970 20 kHz wide, experimental\*  
1249.990 20 kHz wide, experimental\*  
1250.500 1 MHz wide, experimental  
1251.500 1 MHz wide, experimental  
1297.000-1298.000 Unchannelized, experimental  
1298.500 1 MHz wide, experimental\*  
1299.000-1299.450 Unchannelized, experimental  
1299.500 100 kHz wide, experimental  
1299.600 100 kHz wide, experimental  
1299.700 100 kHz wide, experimental\*  
1299.800 100 kHz wide, experimental\*  
1299.870 20 kHz wide, BBS LAN  
1299.890 20 kHz wide, DX Packet Spotting  
1299.910 20 kHz wide, BBS LAN  
1299.930 20 kHz wide, experimental\*  
1299.950 20 kHz wide, experimental\*  
1299.970 20 kHz wide, experimental\*  
1299.990 20 kHz wide, experimental\*

\* Full duplex channel pairs at 50 MHz separation, example:  
1249.910 ↔ 1299.910

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## Definitions

9600 BPS Stations using 9600 baud with direct FSK (G3RUH, TAPR, etc.) modems.

Backbone No uncoordinated stations. These channels are for specific purposes as defined by the NCPA and/or affiliated groups. These are frequencies where the various BBS, nodes, and networks forward traffic and are very high volume channels. Please use the normal user entry points of the network you want to access rather than these channels.

BBS These frequencies are for user access to a full-service BBS. Keyboard-to-keyboard is tolerated. Please don't put high level nodes or digipeaters on these channels since they are local. A low-level direct link or node that links into a backbone on another frequency is the proper implementation.

Duplex Simultaneous transmit and receive by a single station, including digital repeaters. Duplex channels are intended for high-volume applications. 9600 baud or higher is encouraged, but not required at this time.

DX Spotting Northern California DX packet spotting network. No other activity should be on these channels.

EOC Emergency Operations Center Any group participating in or set up for emergency communications in support of

appropriate government agencies.

Experimental Anything goes except full service BBS or any 24 Hr/Day services (nodes, gateways, etc). This is where you can test new gear, programs, etc. These channels may be reassigned in the near future, so no permanent activities please.

Forwarding same as *backbone*

Keyboard to Keyboard Primarily chat channels. These are also the primary emergency channels, including EOC usage. No continuous high-volume activity such as full service BBS, DX Spotting, and TCP/IP servers.

Interlink same as *backbone*

LAN Local Area Network. BBS's are grouped into LAN's for more efficient forwarding. A LAN frequency is the forwarding channel within a LAN and to the backbone. Please do not attempt to access the BBS network on these channels.

Personal mailbox/maildrop A BBS-like system, often running entirely within a TNC, with a small number of users that handles information of a personal, local or special-purpose nature. A mailbox is allowed on keyboard-to-keyboard channels ONLY if it does not forward with other BBSs. Mailboxes may forward with full-service BBSs on LAN channels at the discretion of the BBS SYSOP.

TCP/IP Stations using TCP/IP protocol on top of AX.25. Some AX.25 tolerated to communicate to TCP/IP stations if a compatible p-persistence access method used.

User Access User access to a network. This is for the next generation of packet which is expected to operate like the internet. Users would access such a network on these frequencies. The load on these channels may be rather high, like BBS channels. The activity may be any combination of BBS, keyboard, TCP/IP, or other modes.

## Procedure for changes

Send requests for changes to either the frequency coordinator or the NCPA board. The frequency coordinator will then present the request to the board along with suggested assignments. The NCPA board, elected by you, the packet user, makes all assignments.

## Misc. Info.

Packet tends to splatter if the deviation is set too high. Please keep your deviation to less than 5 kHz.

Except for the 219-220 MHz segment, the NCPA currently does not coordinate individual stations, nodes, etc. leaving that to the special interest groups. BBS station coordination is done by the PSNC in Northern CA. DX spotting is coordinated by DXPSN. Some digital has been coordinated on auxiliary channels by NARCC.

The NCPA board conducts most of its meeting activity electronically by internet e-mail remailer, [ncpa@kkn.net](mailto:ncpa@kkn.net). As with face-to-face board meetings, interested persons are welcome. For more information about the remailer send email to [ncpa-request@kkn.net](mailto:ncpa-request@kkn.net) with just the command HELP in the message body, nothing in the subject, and an email message will be sent to you. Subscribe by using the command SUBSCRIBE in the message body. Subscribing to the remailer is like attending a continuous NCPA board meeting. One must subscribe before posting messages.

## Northern California Packet Association

The NCPA fosters digital communications modes of amateur radio through education, band planning, and acts as an umbrella organization for various packet special interest groups. Your annual dues helps pay for this newsletter and other educational materials activities. If you might be interested in getting more involved, please let us know.

Call: \_\_\_\_\_ Home BBS: \_\_\_\_\_ e-mail: \_\_\_\_\_

Name: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip + 4: \_\_\_\_\_ Phone: \_\_\_\_\_

- New Membership     Renewal     Change of Address     I'm an ARRL Member  
 One year: \$10     Two Years: \$20     Three years: \$30  
(make checks payable to NCPA)

Please indicate your area(s) of interest:

- BBS SysOp     BBS User     APRS     NET/ROM     TCP/IP     High-speed packet  
 DX Packet Spotting Network     Keyboard to Keyboard     FCC/legal issues     Other:

**NCPA** *Downlink*  
**Northern California Packet Association**  
**PO BOX K**  
**Sunnyvale CA 94087**

**First Class**